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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,801	12/29/2004	Christian Maletzko	12810-00007-US	7341

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EXAMINER

ZEMEL, IRINA SOPHIA

ART UNIT	PAPER NUMBER
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1796

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11/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,801	Applicant(s) MALETZKO ET AL.	
	Examiner Irina S. Zemel	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 6-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/11/05, 12/29/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of invention Group I, claims 1-5 in the reply filed on 7-28-2008 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2 and 3, it is unclear what the clause "the polypropylene polymer" refers to as the base claim recites "polypropylene polymers" (in plural, emphasis added), thus making it confusing how the polypropylene polymers of claims 2 and 3 relate to the polymers of claim 1.

In claim 3, it is not apparent what is meant by the claimed high-temperature peak, i.e., whether it is the property of the base polypropylene polymer or the peak can be attributed to the presence of higher Tg/Tm additional polymer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/38048 to Kaneka Corporation, (hereinafter "Kaneka").

US Patent 6,596,782 is a family equivalent of the cited Kaneka WO document and is used in the rejections as the equivalent English translation of the Kaneka document (the references are made to the US document).

Kaneka discloses open cell polypropylene expandable beads having See comparative example 7. While the content of the open cells in the example is slightly below the claims 40 %, it has been established by the case law that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). In the instant case, the expressly disclosed value of 37 is sufficiently close to the claimed 40 % so it is expected that the properties of the disclosed and the claimed beads are substantially similar.

In the illustrative example 7, the underlying compositions comprises polypropylene based resin and water absorbing polymers (Ethylene-acrylic acid copolymer) in the amounts of 5 %, which correspond to the claimed "cell-opener". It is further noted that among hydrophilic additives, additives that fully correspond to those disclosed in the instant specification as "cell openers" are expressly disclosed in columns 5-6. The list of suitable hydrophilic polymers includes those, which inherently have higher melting points, than the base PP polymer, thus the beads will inherently exhibit higher DSC peak.

The average cell size of the beads of example 7 is disclosed as 20 μm , which falls within the claimed range. The reference does not expressly disclose the size of the expanded bead or the density of the bead, however, from the expansion ratio of 18, given that the density of polypropylene polymers is about 900 g/l, the expanded particle inherently has the claimed density. Similarly, from the initial weight of the unexpanded particle, (5 mg), and the expansion ratio of 18, the expanded particle size also falls within the claimed size.

In addition, as evidenced from the disclosure and the illustrative examples, specifically example 7, the cushioning and flexibility properties of the molded articles obtained from the expanded beads disclosed in example 7 fall into specific middle range, while maintaining all other properties at high level, which results, by itself, constitute an expressed teachings to prepare beads with higher open cell content in order to obtain molded articles with specific properties for applications where lower flexibility of the foam is desirable.

Thus, the invention as claimed, would have been fully obvious from the teachings of the cited reference.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneka as applied to claim 1 above, and further in view of US Patent 6,077,875 to Sasaki et al., (hereinafter "Sasaki").

This is alternative rejection of claim 3, should the claimed DSC peak be interpreted as the property the underlying PP resin in the expandable bead.

The Kaneka reference does not address the DSC behavior of the expanded beads, however PP based beads which have, in the DSC thermodiagram, at least one high-temperature peak at a higher temperature than the melting peak of the propylene polymer employed are known in the art as disclosed in Sasaki. The high temperature peak is a function of the processing conditions of the expandable beads, and such beads exhibit improved mechanical properties. Thus, using of such PP base resins in invention of Kaneka (or comparative examples) would have been obvious to obtain molding of improved properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1796

Irina S. Zemel
Primary Examiner
Art Unit 1796

ISZ